Angular leaf spot was a major disease of cotton in Arizona in the early 1920's but practically disappeared with the general use of acid-delinted seed. It has reappeared in severe form in the Sulphur Springs Valley in the last three years, due to the planting of a few fields of undelinted seed. Abundant rains in July resulted in severe leaf and boll infection and loss of yield.

Use Acid-Delinted Seed

Seed which has been acid-delinted and dusted with a good fungicide is the best planting seed and will produce the quickest and most uniform stands. Ceresan M has been widely used both as a dust and in slurry treatment. Dow 9-B and other fungicides also have proved satisfactory.

Mechanical delinting plus (slurry) (wet) treatment with Ceresan M will give good control of seed borne diseases, but complete removal of the short lint by acid-delinting has several very important advantages:

1. Acid-delinted seed can be very accurately graded by either wet or dry methods to remove immature and weak seed.

2. The good heavy seeds (often called sinkers because they sink in water while poor seeds float) can be accurately spaced and planted by using corn plates or special plates drilled for any desired rate of seeding or spacing. This not only saves half or more of the seed as compared with fuzzy seed, but makes it possible to eliminate part (and sometimes all) of the labor and cost of thinning. This is something each grower must work out for his own soil conditions.

3. The very rapid germination of acid-delinted seed is a big advantage in soils which tend to dry out before the seedlings emerge.

4. When planted in warm soil (65 degrees F. or above) at proper depth, one inch in heavier soils and one-half inches in lighter soils, growth is rapid and uninterrupted by cold spells, and good yields are secured even by planting as late as May first.

5. Some saving of irrigation water is possible in later plantings.

Don't Plant Too Deep

The only field condition under which superior stands are not secured with acid-delinted seed is when seed is planted too deep in cold, wet soil.

Seed treatment has not given complete protection against sore-shin (Rhizoctonia) as the amount of fungicide adhering to the cotton seed can affect only the soil immediately surrounding the seed — say one-half inch in all directions. This is an estimate used only to illustrate a principle. Rhizoctonia usually attacks the seedlings just below the soil in a zone not protected by seed treatment.

Recently Dr. C. H. Arndt of the South Carolina Experiment Station designed a machine to blow a measured amount of fungicide into the open furrow as the seed is dropped and covered, with the aim of mixing enough fungicide with the soil just above the seed to protect it from Rhizoctonia and other fungi producing damping-off of seedlings. Some favorable reports were made on tests in other states in 1952 and tests were made in 1953 by Experiment Station and Extension Service in Pima, Maricopa, and Yuma counties. The Pima county test in a commercial field was hindered by dry, windy weather following planting and was not conclusive. In other tests some materials appeared promising but it is too early to make definite recommendations.

Applying the fungicide in solution or suspension as a spray in a narrow band just over the seed may prove better than blowing it into the furrow, but this likewise needs careful testing.

Principle is Sound

The principle of applying a fungicide to the soil surrounding the emerging seedling appears to be sound. As soon as the details are worked out, a method may be developed of avoiding skips in stand and possible replanting.